

## CLAIMS

What is claimed is:

1. A method of wafer processing, comprising the steps of:  
when a wafer lot arrives at a processing tool in a send cassette,  
randomizing said lot by transporting individual wafers thereof  
variously,  
5 within said tool,  
from said cassette  
either to a processing position or  
to a wafer staging area.
2. The method of Claim 1, further comprising the contemporaneous  
step of recording process sequence data for said wafers.
3. The method of Claim 1, further comprising the subsequent step of  
correlating fault and/or parametric data with process sequence  
data resulting from said randomization step.
4. The method of Claim 1, further comprising the subsequent step of  
correlating fault and/or parametric data with process sequence  
data resulting from said randomization step, and controlling  
process parameters accordingly.
5. The method of Claim 1, further comprising the contemporaneous  
step of recording positional data for said wafers.

6. A method of wafer processing, comprising the steps of:  
when a wafer lot arrives at a processing tool in a send cassette,  
randomizing said lot by transporting individual wafers thereof  
variously,  
5 within said tool,  
from said cassette to a processing position,  
or from said cassette to a wafer staging area, if said wafer  
staging area is empty,  
or from said wafer staging area to said processing position.
7. The method of Claim 6, further comprising the contemporaneous  
step of recording process sequence data for said wafers.
8. The method of Claim 6, further comprising the subsequent step of  
correlating fault and/or parametric data with process sequence  
data resulting from said randomization step.
9. The method of Claim 6, further comprising the subsequent step of  
correlating fault and/or parametric data with process sequence  
data resulting from said randomization step, and controlling  
process parameters accordingly.

10. A method of wafer processing, comprising the steps of:  
when a wafer lot arrives at a processing tool in a send cassette,  
randomizing said lot by transporting individual wafers thereof  
variously,  
5 within said tool,  
from said cassette  
either to a processing position or  
to a wafer staging area.
11. The method of Claim 10, further comprising the contemporaneous  
step of recording process sequence data for said wafers.
12. The method of Claim 10, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said randomization step.
13. The method of Claim 10, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said randomization step, and controlling  
process parameters accordingly.

14. A method of wafer processing, comprising the steps of:  
randomizing a wafer lot by transporting individual wafers thereof  
variously,  
within a processing tool,  
5 from a processing position to a wafer cassette,  
from a wafer staging area to a wafer cassette,  
or from said processing position to said wafer staging area.
15. The method of Claim 14, further comprising the contemporaneous  
step of recording process sequence data for said wafers.
16. The method of Claim 14, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said randomization step.
17. The method of Claim 14, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said randomization step, and controlling  
process parameters accordingly.

18. A fabrication method, comprising the steps of:  
varying the history of wafers within a lot by transporting individual  
ones thereof  
within a processing tool with multiple processing chambers,  
5 among said chambers and wafer cassette and/or staging locations  
in various different sequences.
19. The method of Claim 18, further comprising the contemporaneous  
step of recording process sequence data for said wafers.
20. The method of Claim 18, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said varying step.
21. The method of Claim 18, further comprising the subsequent step  
of correlating fault and/or parametric data with process sequence  
data resulting from said varying step, and controlling process  
parameters accordingly.
22. A processing tool which is programmed to perform the method of  
Claim 1.
23. A processing tool which is programmed to perform the method of  
Claim 6.
24. A processing tool which is programmed to perform the method of  
Claim 10.

25. A processing tool which is programmed to perform the method of Claim 14.

26. A processing tool which is programmed to perform the method of Claim 18.